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| APPLICATION NO.   | FILING DATE  | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |  |
|---|--------------|----------------------|---------------------|------------------|--|
| 10/606,288  | 06/26/2003   | Markku Juntti        | 60091.00223         | 3278             |  |
| 32294   | 7590         | 02/20/2008           | EXAMINER            |                  |  |
| SQUIRE, SANDERS & DEMPSEY L.L.P.<br>14TH FLOOR<br>8000 TOWERS CRESCENT<br>TYSONS CORNER, VA 22182 |              |                      | KIM, KEVIN          |                  |  |
| ART UNIT  | PAPER NUMBER | 2611                 | MAIL DATE           | DELIVERY MODE    |  |
|   |              | 02/20/2008           |                     | PAPER            |  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/606,288             | JUNTTI ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Kevin Y. Kim           | 2611                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11-19-2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5,6,11-13,15,16,21-23,25,26,31 and 33 is/are rejected.
- 7) Claim(s) 4,7-10,14,17-20,24 and 27-30 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Remarks, filed November 19, 2007, with respect to the rejection(s) of claim(s) 11,12,15,16,21,22,26,31 and 33 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Stenstrom et al (US Pat. 6,466,616).

### ***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3,5,6 are rejected under 35 U.S.C. 102(b) as being anticipated by Jamal et al (US Pat. 5,533,067 previously cited).

Claims 1 and 5.

Jamal et al discloses a method (see Fig.4), comprising:

determining from a received signal at least one variable representing statistical characteristics of a channel; see correlator (23) and Sync (24),  
determining a prefilter (26) using at least one variable representing the statistical characteristics of the channel; see the output of the Sync (24) is provided to the control input of the prefilter and,

adapting sample rate of a prefilter output of the prefilter for an adaptive\_channel estimator (31); see the sample rate of the prefiltered signal is adapted by the sync block (24). See col. 9: 30-37 in particular.

Claim 2.

Jamal et al discloses correlation between channel measurements, at the correlation 23, which is one of the recited statistical variables.

Claim 3.

Jamal et al discloses down sampling the prefilter output, thus teaching decimation of the sampling rate.

Claim 6.

Jamal et al does not teach the length of the channel estimator (31) is variable, implying that it is configured constant.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 11-13,15,16,21-23,25,26,31 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Jamal et al (US Pat. 5,533,067 previously cited) in view of Stenstrom et al (US Pat. 6,466,616).

Claims 11,15,21,25,31 and 33.

Jamal et al discloses a prefILTERING arrangement/apparatus (see Fig.4) comprising:

a first determination unit/means (23,24) configured to determine, from a received signal, at least one variable representing statistical characteristics of a channel; see correlator (23),

a second determination unit/means (38) configured to determine a prefilter using at least one variable representing the statistical characteristics of the channel; see the output of the Sync (24) is provided to the control input of the prefilter and

an adaptation unit/means (24) configured to adapt sample rate of the prefilter output of the prefilter for an adaptive channel estimator (31). See the sample rate of the prefiltered signal is adapted by the sync block (24). See col. 9, lines 30-37 in particular.

Jamal et al fails to teach adjusting the number of prefilter taps based on a variable representing channel characteristics.

Stenstrom et al teaches determining the number of taps in a prefilter to minimize the computational load and reduce the overall power consumption. See col.2:64-67 and col.4:1-4. Thus, it would have been obvious to one skilled in the art at the time the invention was made to use a channel characteristics to determine the number of the prefilter of Jamal et al for the

purpose of minimize the computational load and reduce the overall power consumption as taught by Stenstrom et al.

Claims 12 and 22.

Jamal et al discloses correlation between channel measurements, at the correlation 23, which is one of the recited statistical variables.

Claims 13 and 23.

Jamal et al discloses down sampling the prefilter output, thus teaching decimation of the sampling rate.

Claims 16 and 26.

Jamal et al does not teach the length of the channel estimator (31) is variable, implying that it is configured constant.

***Allowable Subject Matter***

4. Claims 4,7-10,14,17-20,24,27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

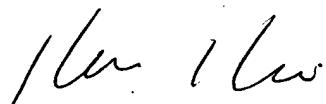
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 19, 2008

AU 2611



KEVIN KIM  
PRIMARY PATENT EXAMINER